

Appl. No. : 10/672,906
Filed : September 25, 2003

REMARKS

In response to the final Office Action mailed January 11, 2008, Applicant has amended the application as above. No new matter is added by the amendments as discussed below. Applicant respectfully requests the entry of the amendments and reconsideration of the application in view of the amendments and the remarks set forth below.

Discussion of Claim Amendments

Claims 21 and 30 have been amended. Claims 39 and 40 have been added. Upon the entry of the amendments, Claims 21-40 are pending in this application. The amendments to Claims 21 and 30 are supported by at least paragraphs [0051] and [0052] of the specification. New Claims 39 and 40 are supported by at least Figure 3C and paragraph [0048] of the specification. Thus, no new matter has been added to the claims. Entry of the amendments is respectfully requested.

Discussion of Rejection of Claims Under 35 USC § 103(a)

The Examiner has rejected Claims 21, 28-30, 37 and 38 under 35 U.S.C. § 103(a), as being unpatentable over Noh et al. (U.S. Patent No. 6,646,707) in view of Hattori et al. (U.S. Patent No. 6,671,009). The Examiner has rejected Claims 22-27 and 31-36 as being unpatentable over Noh in view of Hattori and further in view of Kim et al. (U.S. Patent No. 6,771,343). Applicant respectfully submits that all pending claims are allowable over the cited prior art as discussed below.

Standard of Prima facie Obviousness

In order to provide a *prima facie* showing of obviousness under 35 U.S.C. § 103, all the claim limitations must be taught or suggested by the prior art. *See, e.g., In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Discussion of Patentability of Independent Claims 21 and 30

Each of independent Claims 21 and 30, as amended, recites, among other things, "a plurality of liquid crystal molecules disposed between the first and the second substrate and

transformed from splay state to bend state, wherein the transformed molecules are positioned only directly above the closed slit." See, for example, reference numeral "518a" of Figure 3C of this application. Applicant respectfully submits that none of the cited prior art references teach or suggest the above-indicated feature of the claimed invention.

1. Noh does not teach or suggest the above-indicated feature of the claimed invention

First of all, Noh does not teach a plurality of liquid crystal molecules disposed between the first and the second substrate and *transformed from splay state to bend state*. Noh discloses a fringe field switching mode LCD. Noh teaches, in connection with Figure 4B, that when voltage is not applied, liquid crystal molecules (100a, 100b, 100c) are arranged, the long side thereof being parallel to rubbing axis (R). When voltage is applied, a fringe field is generated due to voltage difference between counter electrode and pixel electrode, thereby rotating clockwise liquid crystal molecules (100b) disposed on the upper part of the reference slit (S1) and counterclockwise liquid crystal molecules (100c) disposed on the lower part thereof. In other words, the Noh reference at best teaches that the liquid crystal molecules are clockwise or counterclockwise rotated, and does not teach the use of liquid display molecules that transform from splay state to bend state.

Since Noh does not teach the transformed molecules, Noh cannot, and does not teach that the transformed molecules are positioned only directly above the closed slit. Applicant further notes that Noh teaches in connection with Figure 4A that the liquid display molecule (100a), which is positioned directly above the closed slit, does not change its orientation when a fringe field is generated let alone no transformation to bend state. *Noh at col. 4 lines 35-44*. In view of the above, Applicant respectfully submits that Noh does not teach or suggest the above-indicated feature of the claimed invention.

2. Hattori does not teach or suggest the above-indicated feature of the claimed invention

Hattori does not teach that the transformed molecules are positioned only directly above the closed slit. Although Hattori teaches that the molecules in the seed regions (299) transform to bend state and eventually, the molecules of *the entire pixel, which include the molecules other than those positioned directly above the slit (225)*, transform to bend state. Hattori at col. 39, lines 1-39 and Figure 24(a). In contrast, in the claimed invention, the transformed molecules are positioned only directly above the closed slit. See, for example, Figure 3(C) of this application. In view of the above, Applicant respectfully submits that Hattori does not teach or suggest the above-indicated feature of the claimed invention.

3. The combination of Noh and Hattori does not teach or suggest the above-indicated feature of the claimed invention

Even if Noh and Hattori were combined, Applicant respectfully submits that the combination does not teach that the transformed molecules are positioned only directly above the closed slit. If the rotated molecules (100b' and 100c') of Noh were replaced by the molecules of Hattori, the resultant molecules would not be positioned only directly above the slit (S2) as the replaced molecules are either rotated as in Figure 4A of Noh or formed significantly beyond the slit area (S2) as in Figure 24(a) of Hattori. Neither of the modifications teaches that the transformed molecules are positioned only directly above the closed slit. In view of the above, Applicant respectfully submits that the combination of the Noh and Hattori references does not teach or suggest the above-indicated feature of the claimed invention.

4. Summary

In view of the above, Applicant respectfully submits that Noh, and Hattori, alone or in combination, do not teach or suggest the above-recited feature of the claimed invention. Kim was cited merely to allegedly show certain features of dependent Claims 22-27 and 31-36, and this reference does not remedy the deficiency of Noh and Hattori. Therefore, the combination of the prior art references does not teach or suggest all of the features of each independent claim.

Appl. No. : 10/672,906
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Therefore, Applicant respectfully submits that no *prima facie* case of obviousness has been established with respect to Claims 21 and 30, and thus Claims 21 and 30 are allowable over the prior art of record.

Discussion of Patentability of Dependent Claims

Claims 22-29 and 31-38 depend from base Claim 21 or 30, and further define additional technical features of the present invention. In view of the patentability of their base claims, and in further view of their additional technical features, Applicant respectfully submits that the dependent claims are patentable over the prior art of record. Furthermore, Applicant does not necessarily agree with the characterizations of the prior art made by the Examiner in rejecting the dependent claims.

Discussion of Patentability of New Claims

Each of new Claims 39 and 40 includes all of the features of Claim 21 or 30, and further recites a metal electrode positioned below the closed slit and at least two adjacent sub pixel electrodes. Applicant respectfully submits that none of the references teach this feature. In view of the patentability of their base claims, and in further view of their additional technical features, Applicant respectfully submits that new Claims 39 and 40 are patentable over the prior art of record.

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not

Appl. No. : 10/672,906
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reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

CONCLUSION

In view of Applicants foregoing amendments and remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 4/29/08

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